

REMARKS/ARGUMENTS

STATUS OF THE CLAIMS

Applicants have amended Claim 1. Applicants have cancelled Claims 2, 3, and 16, and thus, the rejections of Claims 2, 3, and 16 are moot. Applicants respectfully request reconsideration of pending Claims 1, 4-5, 9-11, 13, and 15 in light of the following remarks.

CLAIM REJECTIONS – 35 U.S.C. § 103(a)

Independent Claim 1

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Darby in view of U.S. Patent No. 4,757,751 issued to Munoz (hereinafter “Munoz”) and U.S. Patent No. 1,673,011 issued to Mauser (hereinafter “Mauser”).

Amended Claim 1 specifies a “securing plate member having an elliptical shape.”

Darby teaches a pressure vessel 11 including a shell 15 having a groove 27, a dome-shaped element 39, a tubular connector 55, a securing plate 41, and a locking ring 79 in form of a helical band. The dome-shaped element 39 includes an exterior convex surface 43. Darby teaches that “[t]he exterior convex surface 43 of the dome-shaped element terminates in a circular rim 71 at its periphery.” *Darby*, col. 8, lines 5-7 (emphasis added). The dome-shaped element 39 and the securing plate 41 are coupled to the tubular connector 55 by a hex-shaped nut 61. The locking ring 79 engages the groove 27 to hold the tubular connector 55 with the dome-shaped element 39 and the securing plate 41 in place. The securing plate 41 includes a shoulder 77, which engages the locking ring 79.

First, if the tubular connector 55 and the dome-shaped element 39 of Darby are the “universal head member” of Claim 1 and the securing plate 41 of Darby is the “securing plate” of Claim 1 (as argued by the Examiner), the securing plate 41 of Darby is not elliptical in shape.

Alternatively, if the tubular connector 55 and the dome-shaped element 39 of Darby are the “universal head member” of Claim 1 and the securing plate 41 of Darby is the “elliptical head” of Claim 1, the hex-shaped nut 61 of Darby is the only other structure that could correspond to the “securing plate” of Claim 1, but the hex-shaped nut 61 is not elliptical in shape.

Munoz does not cure the deficiencies of Darby. Munoz teaches a cylinder end seal assembly for a high pressure cylinder. Figure 1 of Munoz illustrates a prior art assembly. Munoz teaches that “[a] conduit 44 for high-pressure liquid has a head portion 46 which is captive in the cylinder 14 and extends beyond the cylinder 14 with a threaded, terminal end 48” and “[a] bolt 50 secures the end 48 fast in the plate 26.” *Munoz*, col. 2, lines 15-18. Figure 1 shows that the bolt 50 is a nut, which fastens the head portion 46 to a plate 26. If the plate 26 of Munoz is the “universal head member” of Claim 1 and the head portion 46 of Munoz is the “elliptical head” of Claim 1, the bolt 50 of Munoz is the only other structure that could correspond to the “securing plate” of Claim 1. However, the bolt 50 is not elliptical in shape. In addition, Munoz fails to teach any structure corresponding to the “retainer ring member,” as also specified by Claim 1.

Mauser does not cure the deficiencies of Darby and Munoz. Mauser teaches a locking ring for receptacles. However, Mauser does not teach or suggest any structure corresponding to a “securing plate member having an elliptical shape,” as specified by amended Claim 1.

Applicants have amended Claim 1 to include the subject matter of original dependent Claims 2 and 3. Claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Darby in view of Munoz and Mauser and further in view of U.S. Patent No. 3,447,712 issued to Galasso et al. (hereinafter “Galasso”).

However, Galasso does not cure the deficiencies of Darby, Munoz, and Mauser. Galasso teaches a centrifuge test tube cap including a crown 110, a boss 114, a stem 140, a seal washer 160, a nut 180, an insert 190, and a set screw 200. Galasso teaches that “[t]he seal washer 160 is generally cylindrical, having an outside diameter approximately equal to that of the boss 114.”

Galasso, col. 2, line 71 to col. 3, line 1 (emphasis added). *Galasso* also teaches that “[t]he stem 140, shown in detail in FIG. 4, has a downwardly extending cylindrical wall 142 with an outside surface 144....” *Galasso*, col. 2, lines 60-62 (emphasis added). Figure 1 of *Galasso* is an exploded perspective view of the centrifuge test tube cap, which makes the components look elliptical, even though they are all circular. In order to be capable of assembling the centrifuge test tube cap, as shown in Figure 6, the crown 110, the boss 114, the stem 140, the seal washer 160, the nut 180, the insert 190, and the set screw 200 must all have an identical shape. In combination with the stem 140 having the cylindrical wall 142 and the seal washer 160 generally being cylindrical, the components of the centrifuge test tube cap are all circular (as shown in the top view of Figure 5).

If the seal washer 160 of *Galasso* is the “elliptical head” of Claim 1 and the stem 140 is the “universal head member” of Claim 1, as argued by the Examiner, the crown 110 and/or the nut 180 are the only structures that could correspond to the “securing plate member” of Claim 1. However, neither the crown 110 nor the nut 180 has an elliptical shape (as clearly shown in Figure 5 of *Galasso*).

Accordingly, none of Darby, Munoz, Mauser, or *Galasso*, either alone or in combination, teaches or suggests an end closure assembly including a universal head member, which is held in place by a retainer ring member having “three individual and separate arced elements,” and a “securing plate member having an elliptical shape.” Thus, independent Claim 1 and dependent Claims 4-5, 9-11, 13, and 15 are allowable.

Dependent Claims 4, 5, 9-11, 13, and 15

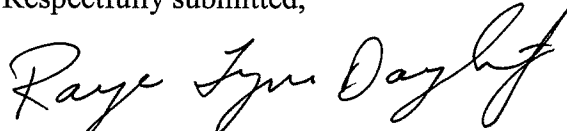
Claims 4, 5, 9-11, 13, and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Darby in view of Munoz and Mauser. Claims 4, 5, 9-11, 13, and 15 depend from Claim 1 and are therefore allowable for the reasons set forth above with respect to Claim 1.

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CONCLUSION

In light of the above, Applicant respectfully requests entry of the Amendment and allowance of pending Claims 1, 4, 5, 9-11, 13, and 15.

Respectfully submitted,

A handwritten signature in black ink, reading "Raye L. Daugherty". The signature is fluid and cursive, with the first name "Raye" being the most prominent.

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